

### **REMARKS**

The claims have not been amended. Accordingly, claims 1-12 are currently pending in the application, of which claim 1 is an independent claim. Applicants respectfully request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

#### ***Rejections Under 35 U.S.C. § 103***

Claims 1-4 and 9-11 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Japanese Patent Application Publication No. 11-273731 filed by Naoki ("Naoki"). Applicants respectfully traverse this rejection for at least the following reasons.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. \_\_, slip op. at 14-15 (2007). Furthermore, even if the prior art may be combined, the combination must disclose or suggest all of the claim limitations. See *in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Claim 1 recites, *inter alia*:

wherein the linear polymer having P=O bonds is present in an amount ranging from about 0.005 to less than 5 wt% based on the total amount of the electrolyte. (*emphasis added*)

Despite the Examiner's continued assertions to the contrary, Naoki fails to teach or suggest at least such features. Rather, Naoki discloses a polymer phosphoric ester occupying 5-20% by volume (paragraph 0026). In Naoki, the density of the linear polymer having P=O bonds is greater than 1 g/ml. For example, the density of diethyl vinyl phosphonate is 1.068 g/ml. Hence, the vol% of the polymer cannot be used to teach a wt%. However, the Office Action states that "1.068 g/ml is approximately 1 g/ml" (page 8).

Even if the vol% of Naoki could be used to teach wt%, the Examiner has still failed to establish a *prima facie* case of obviousness. If the density of the polymer phosphoric ester is 1 g/ml, Naoki would teach a range of 5-20 wt%, not 0.005 to less than 5 wt% as recited in claim 1. The range of 5-20% disclosed by Naoki fails to overlap or touch the claimed range of the linear polymer having P=O bonds of about 0.005 to less than 5 wt% recited in claim 1. To cure this deficiency, the Office Action states that "a *prima facie* case of obviousness exists where the claimed ranges and the prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties" (page 3). However, the Office Action fails to provide any analysis as to why an ordinarily skilled artisan would have expected these ranges, which do not overlap, to have the same properties. This conclusory analysis can not possibly support a *prima facie* case of obviousness, particularly in view of Applicants disclosure at page 9, lines 7-8, which notes that battery performance, such as capacity characteristics, deteriorates when the polymer exists in an amount exceeding 5 wt%. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness over claim 1.

Moreover, even assuming *arguendo* that the Examiner has established a *prima facie* case of obviousness over claim 1, a *prima facie* case of obviousness can be rebutted by the showing of criticality. As noted in Applicants' response filed March 1, 2007, MPEP §2144.05(II)(A) states that "differences in concentration and temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating

that such concentration or temperature is critical." (citations omitted). Applicants' response filed November 14, 2006, presented the criticality of the claimed range for which the Examiner has failed to address. In Applicants' response filed November 14, 2006, Applicants cited to page 9, lines 4-9 of the specification to support the criticality of the claimed range:

The linear polymer having P=O bonds is preferably present in an amount ranging from about 0.005 to about 5 wt% based on the total amount of the electrolyte. The preferable effect of the linear polymer is not likely to occur when the polymer is present in an amount of less than about 0.005 wt%, and battery performance such as capacity characteristics deteriorates when the polymer exists in an amount exceeding 5 wt%.

Thus, Applicants have demonstrated that the claimed range recited in claim 1 and the range disclosed in Naoki do not overlap or touch, demonstrated the criticality of Applicant's claimed range, and distinguished Applicant's claimed range from Naoki's range by demonstrating that Naoki's range would cause deterioration of battery performance. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness over Naoki.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claim 1. Claims 2-4 and 9-11 depend from claim 1 and are allowable at least for this reason. Since none of the other prior art of record discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claim 1, and all the claims that depend therefrom, are allowable.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Naoki in view of U.S. Patent Application Publication No. 2002/0177027 applied for by Yeager, et al. ("Yeager"). Applicants respectfully traverse this rejection for at least the following reasons.

Applicants respectfully submit that claim 1 is allowable over Naoki, and Yeager fails to cure the deficiencies of Naoki noted above with regard to claim 1. Hence, claim 12 is allowable at least because it depends from an allowable claim 1.

Claims 5-8 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Naoki in view of U. S. Patent No. 6,645,671 issued to Tsutsumi, et al. ("Tsutsumi").

Applicants respectfully traverse this rejection for at least the following reasons.

Applicants respectfully submit that claim 1 is allowable over Naoki, and Tsutsumi fails to cure the deficiencies of Naoki noted above with regard to claim 1. Hence, claims 5-8 are allowable at least because they depend from an allowable claim 1.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 5-8 and 12. Since none of the other prior art of record discloses or suggests all the features of the claimed invention, Applicants respectfully submit that claims 5-8 and 12 are allowable.

**CONCLUSION**

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

/hae-chan park/

Hae-Chan Park  
Reg. No. 50,114

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**CUSTOMER NUMBER: 58027**  
H.C. Park & Associates, PLC  
8500 Leesburg Pike  
Suite 7500  
Vienna, VA 22182  
Tel: 703-288-5105  
Fax: 703-288-5139  
HCP/SLK/srb